



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/550,627	08/14/2006	Hiroshi Aoki	053168	5421
38834 7590 06/16/2009 WESTERMAN, HATTORI, DANIELS & ADRIAN, LLP 1250 CONNECTICUT AVENUE, NW SUITE 700 WASHINGTON, DC 20036				
EXAMINER PETTTTT, JOHN F				
ART UNIT 3744		PAPER NUMBER		
MAIL DATE 06/16/2009		DELIVERY MODE PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/550,627

**Applicant(s)**

AOKI ET AL.

**Examiner**

John F. Pettitt

**Art Unit**

3744

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 26 September 2005.  
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-8 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1-8 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
10) ☒ The drawing(s) filed on 26 September 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☒ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☒ Information Disclosure Statement(s) (PTO-8508)  
Paper No(s)/Mail Date 09/26/2005  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_  
5) ☐ Notice of Informal Patent Application  
6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Priority***

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file. It is noted that claims 1-4 appear to be supported by both foreign priority documents (from years 2003 and 2004); however, claims 5-8 are do not appear to be supported in the 2003 document (JP 2003086052).
2. Lastly applicant cannot rely upon the foreign priority papers to overcome this rejection because a translation of said papers has not been made of record in accordance with 37 CFR 1.55. See MPEP § 201.15.

### ***Claim Objections***

3. **Claims 1-8** are objected to because of the following informalities:

**In regard to claim 1**, the recitation, "An air separator comprising" should read --  
An air separator, comprising:--.

The recitation, "compressing it" (line 2) is ambiguous and should read --  
compressing **the air**--.

The recitation, "and the total amount of the compressed air" (line 10) lacks antecedent basis and should read --and **a** total amount of the compressed air--.

**In regard to claims 2-8**, each dependent claim should be introduced with --**The** air separator-- rather than "An air separator".

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. **Claim 2** is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The recitation, "such as" (line 3) is indefinite as there is no way of determining what is sufficiently such as moisture.

***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

7. **Claims 1-2** are rejected under 35 U.S.C. 102(b) as being anticipated by Karwat et al. (US 2,699,047) hereafter Karwat. Karwat teaches an air separator, (Fig. 5)

comprising: an air compression means (column 3, line 17, hereafter C1) for taking in air from the outside and compressing **the air** at a low pressure, an oxygen concentrating means (13, 14, 15, or 16) for concentrating oxygen gas that is contained in the air compressed by the air compression means (C1), an oxygen/air compression means (40) for further compressing oxygen-rich compressed air (after 13, 14, 15, or 16) passed through the oxygen concentrating means (13, 14, 15, or 16), a heat exchanger (41, 39, and/or 42) for cooling oxygen-rich compressed air (after 40) passed through the oxygen/air compression means (40), and a rectification tower (21) for taking out oxygen gas by separating the oxygen-rich compressed air (after 40) passed through the heat exchanger (41, 39, and/or 42) so as to be cooled to a low temperature by utilizing differences in boiling points of elemental gases (in 21), wherein the air compression means (C1), the oxygen concentrating means (13, 14, 15, or 16) and the oxygen/air compression means (40) are arranged in one line (in series) and a total amount of the compressed air compressed by the air compression means (C1) is supplied to the oxygen/air compression means (40); wherein the oxygen concentrating means (13, 14, 15, or 16) is an adsorption tower (column 6, lines 50-55) containing an adsorbent for adsorbing nitrogen gas in the compressed air, the adsorbent capable of also adsorbing moisture in the compressed air (column 5, lines 20-30).

8. **Claims 1-8** are rejected under 35 U.S.C. 102(e) as being anticipated by Gulliard et al. (US 6,319,303) hereafter Guillard.

**In regard to claim 1**, Guillard teaches an air separator (Fig. 2), comprising: an air compression means (column 2, lines 54-55, hereafter C1) for taking in air from the outside and compressing the air at a low pressure, an oxygen concentrating means (5B) for concentrating oxygen gas that is contained in the air compressed by the air compression means (C1), an oxygen/air compression means (38) for further compressing oxygen-rich compressed air passed through the oxygen concentrating means (5B), a heat exchanger (main heat exchange line, column 2, line 55) for cooling oxygen-rich compressed air passed through the oxygen/air compression means (38), and a rectification tower (distillation apparatus, column 2, line 57) for taking out oxygen gas by separating the oxygen-rich compressed air (Y) passed through the heat exchanger so as to be cooled to a low temperature by utilizing differences in boiling points of elemental gases, wherein the air compression means (C1), the oxygen concentrating means (5B) and the oxygen/air compression means (38) are arranged in one line (in series) and a total amount of the compressed air compressed by the air compression means (C1) is supplied to the oxygen/air compression means (38).

**In regard to claim 2**, Guillard teaches that the oxygen concentrating means (5B) is an adsorption tower containing an adsorbent for adsorbing nitrogen gas in the compressed air, the adsorbent capable of also adsorbing moisture in the compressed air (column 2, lines 65- column 3, line 12).

**In regard to claims 3-4,** Guillard teaches elimination means (6B) for eliminating impurities in the oxygen-rich compressed air between the oxygen/air compression means (38) and the heat exchanger (main heat exchange line).

**In regard to claim 5-7, and 8,** Guillard teaches a part of the air compressed by the air compression means (C1) is not passed through the oxygen concentrating means (5B), but is directly supplied to an inlet path (line into 38) for introducing the oxygen-rich compressed air passed through the oxygen concentrating means (5B) into the oxygen/air compression means (38).

**Conclusion**

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to John F. Pettitt whose telephone number is 571-272-0771. The examiner can normally be reached on M-F 8a-4p.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cheryl Tyler or Frantz Jules can be reached on 571-272-4834 or 571-272-6681. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/John F Pettitt /  
Examiner, Art Unit 3744

/William C Doerrler/  
Primary Examiner, Art Unit 3744

JFP III  
June 15, 2009